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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS:

SAFE AND ENVIRONMENTALLY SOUND MANAGEMENT OF RADIOACTIVE WASTES

(Section II, Chapter 14 of Agenda 21)

Report of the Secretary-General of the Conference

INTRODUCTION

1. This document has been prepared by the Secretary-General of the Conference in response to the decision of the Preparatory Committee taken at its third session in A/CONF.151/PC/WG.II/L.21/Rev.1. It is based on the guidance provided by the Preparatory Committee on the structure of Agenda 21; as contained in A/CONF.151/PC/L.49*. As a follow-up to the discussions on Agenda item 4 c in Working Group II during the above session, a note on the implementation of the Code of Practice on the International Transboundary Movement of Radioactive Waste is attached in the Annex of this document. All texts taken verbatim from Prep Com III document A/CONF.151/PC/WG.II/L.19/Add.2/Rev.1, are inserted between double asterisks (** < > **) with reference to the specific relevant paragraph number. When the text has been modified, the double asterisks have been left out and the words "Derived from" are inserted before the reference to paragraph numbers.

PROGRAMME AREA

PROMOTE THE SAFE AND ENVIRONMENTALLY SOUND MANAGEMENT OF RADIOACTIVE WASTES THROUGH INTERNATIONAL AGREEMENTS

Basis for action

2. ** (L.19/Add.2/Rev.1) ‹ In many parts of the world the amounts of radioactive wastes, including those from nuclear power units, medical centres, research institutes, industrial facilities, mining operations, etc. are growing, [particularly in industrialized countries]. Their safe and environmentally sound management, including disposal, is critical, given their characteristics. › ** The OECD countries generated in 1987, approximately 271,000 m^3 of low and intermediate level radioactive wastes and the projected quantities for 1995 are approximately 327,000 m^3. The corresponding figures for developing countries, USSR and Eastern Europe are 54,000 m^3 and 154,000 m^3 respectively[1]. The quantities of intermediate and low-level wastes being generated amount to about 90-95 per cent of all radioactive wastes emanating from power generators, which include also high-level wastes as well as spent fuel. At the end of 1987, the cumulative amount of high-level radioactive wastes (HLW), including spent fuel was about 14,300 m^3 in OECD countries and about 3,600 m^3 in developing countries[2], USSR and Eastern Europe.

Objective

3. ** (L.19/Add.2/Rev.1) To ensure that radioactive wastes are safely managed and disposed of, with a view to protect human health and the environment, › ** within a wider framework of an integrated approach to nuclear safety at the international level.

Activities

Management related:

4. The following activities should be undertaken:

a. ** (p. 1) ‹ [To promote policies and practical measures to prevent and minimize the generation of radioactive wastes] › ** and provide for their safe treatment, conditioning and disposal.

b. Develop and promulgate radioactive waste safety standards as an internationally accepted basis for the safe management and disposal of radioactive wastes.

c. Ensure safe storage and disposal of radioactive wastes in developing countries, including spent radiation sources and spent fuel from power and research reactors, by transfer of relevant technologies to those countries.

International and Regional Cooperation and Coordination:

5. The following activities should be undertaken:

a. ** (p. 3, 4, 5) ‹ Governments should strengthen their efforts to implement the Code of Practice for International Transboundary Movement of Radioactive Waste, and, under the auspices of IAEA, keep the question of [the control of] such movements under active review, [including the desirability of concluding a legally binding instrument,] or [and work towards a target date for a legally binding convention] [including protocols on liability, compensation and compulsory insurance]

b. [Governments should invite the London Dumping Convention to replace the current voluntary moratorium on disposal of low-level radioactive wastes at sea by legally binding ban on such practice] or [Governments should encourage the London Dumping Convention to expedite work to complete studies on replacing the current voluntary moratorium on disposal of low-level radioactive wastes at sea taking into account the precautionary approach, with a view to take a well informed decision on this issue.]

c. [Governments and international organizations should not allow the disposal of high-, intermediate- and low-level radioactive wastes into, under and next to the seabed.] › ** unless scientific evidence shows that such disposal poses no unacceptable risks to man and the environment.

d. ** (p.6) ‹ [Governments should respect the aims of the Bamako Convention and other relevant regional conventions prohibiting the import of all hazardous wastes, including radioactive wastes.] › **

Means of Implementation

Financial and Cost Evaluation:

6. The costs at national level to manage and dispose of radioactive wastes are considerable and will vary, depending on the technology used for disposal[3].

7. An annual cost of about US$ 8 million will be needed to implement this programme through international organizations (mainly IAEA) to further develop international regulations, to promote research policies and international cooperation and to support developing countries to take preventive and corrective action.

Scientific and Technological Means:

8. The following activities should be undertaken:

a. ** (p. 2) ‹ [To promote research on transmutation of highly radioactive wastes and the development of environmentally sound technologies in this area] › **

b. Establish research and assessment programmes concerned with evaluating the health and environmental impact of radioactive waste disposal.

Capacity Building (including Human Resources Development):

9. Assistance to developing countries to establish and/or strengthen radioactive waste management infrastructures - including regulations, organizations, trained manpower and facilities for the handling, processing, storage and disposal of wastes, generated from nuclear applications.

EXPLANATORY NOTES:

1. The quantities are based on the world's total installed nuclear capacity in 1987 and the projected nuclear capacity in 1995. They should be used for trend purposes only, since waste quantities can vary significantly depending on underlying assumptions to determine the amounts generated per installed 1,000 megawatts of electric power. The quoted figures include radioactive waste generated from commercial plant decommissioning. These wastes are primarily LLW since almost 99 per cent of the radioactivity in a reactor at shutdown is contained in the spent fuel elements, which are removed from the reactor vessel at decommissioning and do not constitute part of the decommission wastes. (Source: NEA/OECD)

2. The quoted figures from high-level wastes do not include wastes from military programmes.

3. A number of countries have established special methods of funding nuclear waste management and disposal programmes, and nuclear plant decommissioning. These methods include charging nuclear electricity producers a small fee per kilowatt-hour of electrical generation to cover current and expected costs. The charges are already being included in the electricity rate in several countries. Because of the vast amounts of electricity produced, these small levies are expected to adequately finance nuclear waste management and disposal programmes. On a percentage basis, they are generally expected to range from 2-6 per cent of the total production costs of nuclear power. In absolute terms, total estimated costs vary considerably - an estimated US$ 5.7 billion in Spain to US$ 30 billion in the United States - depending upon the size and requirements of a country's nuclear power and fuel-cycle programme, based on reports at an IAEA symposium in Vienna in 1987. (Source: International Atomic Energy Agency, "Back End of the Nuclear Fuel Cycle: Strategies and Options", Proceedings of a Symposium, Vienna, 11-15 May 1987, jointly organized by IAEA and NEA/OECD, Vienna (1987) - STI/PUB/758).

ANNEX

SAFE AND ENVIRONMENTALLY SOUND MANAGEMENT OF RADIOACTIVE WASTES: REPORT BY THE DIRECTOR-GENERAL OF THE IAEA ON THE CODE OF PRACTICE ON THE INTERNATIONAL TRANSBOUNDARY MOVEMENT OF RADIOACTIVE WASTE

Introduction

1. The disposal of radioactive waste is principally a matter that is controlled at the national level by applying national standards and regulations that are based on internationally accepted principles for radiation protection. The amounts of radioactive wastes, while growing, remain a very small fraction of the volume of chemically hazardous wastes, and all countries having nuclear power programmes, also have programmes to safely manage the resulting radioactive wastes. Disposal of low- and intermediate-level radioactive wastes has been safely practised in a number of countries for many years, and international consensus has been reached on the feasibility of deep geologic repositories for the safe disposal of high-level wastes and spent nuclear fuel, when it has been determined to be waste.

2. At the request of Member States, the IAEA is developing the Radioactive Waste Safety Standards (RADWASS) series of international consensus standards to document the harmonization that exists at the international level on principles and criteria for radioactive waste management, including disposal of radioactive wastes. Based on the recommendation of a Safety Conference conducted by the Agency in September 1991 and adopted by the General Conference, the Agency is developing a proposal on elements of an integrated international approach to all aspects of nuclear safety, including the disposal of radioactive wastes.

The Code of Practice

3. The IAEA General Conference at its 34th Session in September 1990 adopted by consensus a Code of Practice on the International Transboundary Movement of Radioactive Waste (CG(XXXIV)/RES/530) and decided to keep the question of international transboundary movement of radioactive waste under active review, including the desirability of concluding a legally binding instrument under the auspices of the IAEA.

4. The Code of Practice should serve as guidelines to States for the development and harmonization of laws on the international transboundary movement of radioactive waste. Taking into account the provisions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal[1], it affirms the sovereign right of every State to prohibit the movement of radioactive waste into, from or through its territory. The Code affirms that any transboundary movement of radioactive waste should only take place in accordance with internationally accepted safety standards, with the prior notification and consent of the sending, receiving and transit States, and in accordance with their respective laws and regulations.

5. The Code exhorts every State not to permit the receipt of radioactive waste for management or disposal unless it has the administrative and

technical capacity and regulatory structure for management and disposal of such waste in a manner consistent with international standards. The sending State should satisfy itself that this requirement is met prior to the international movement of radioactive waste. It provides that the sending State should permit readmission into its territory of any radioactive waste previously transferred from its territory if such a transfer is not or cannot be completed in conformity with this Code unless an alternative safe arrangement can be made. Finally, the Code requests every State to adopt the necessary laws and regulations to ensure that the international transboundary movement of radioactive waste is carried out in accordance with this Code and to cooperate at the bilateral, regional, and international levels for the purpose of preventing any international transboundary movement of radioactive waste that is not in conformity with this Code.

6. The Code also states that the Agency should continue to develop relevant technical standards and provide advice and assistance on all aspects of radioactive waste management and disposal, having particular regard to the needs of developing countries.

Monitoring implementation of the Code: national laws and regulations

7. Following adoption of the Code of Practice by the IAEA's General Conference, the Director-General, in order to monitor the implementation of the Code, requested Member States in January 1991, by circular letter, to inform the Secretariat (i) whether they had adopted legislation and/or appropriate procedures for the regulation of international transboundary movement of radioactive waste; (ii) whether such legislation was in accordance with the provisions of the Code of Practice; and (iii) whether they had any experience relevant to the implementation of the Code.

8. This request for information followed a survey conducted in 1989 as preparatory work for the Code of practice on the basis of laws, regulations, national guidelines and codes provided by 40 Member States, in order to determine whether provisions regarding international transactions involving radioactive waste had been enacted, and to identify relevant general principles contained in that legislation that could be incorporated in the Code of Practice.

9. That survey disclosed that most radioactive waste legislation was of recent origin, and made a distinction between radioactive (nuclear) waste and hazardous chemical and industrial wastes. Almost all legislation provided for a system of licensing and/or control of all radioactive waste related activities. A few, notably developing countries informed the Agency that they had not enacted any laws on waste management as there was no radioactive waste generated by nuclear power installations. Low-level radioactive waste from hospitals and research institutions was either shipped to other countries on the basis of bilateral agreements, or stored in an appropriate location in accordance with safety rules established by the national institutions concerned. Some countries had established national guidelines on radioactive waste management and control, or intended to draft radioactive waste management laws to coincide with a beginning nuclear power programme. Several legislations reviewed contained provisions on the transport of radioactive substances and wastes within the national territory (in accordance with the

IAEA regulations). Principles regarding liability (of the operator, or generator) were also contained in some of the laws. Among the general principles most usually found in the legislation reviewed was the protection of man and the environment, the safety of all operations concerning radioactive wastes.

10. As regards the information requested in 1991 from Member States in order to ascertain the conformity of existing legislation with the Code of Practice, and to obtain further insight into country experience with transboundary movements of radioactive waste, replies were received from over 30 countries in Europe, the Asian and Arab regions, Africa, and Latin America.

11. Almost all countries, notably of Europe, confirmed the existence of legislation and procedures for the regulation of radioactive waste management, which generally included provisions for movement of such waste within the national territory. Most countries having enacted such legislation affirmed that its content was in accordance with the general principles established by the IAEA Code of Practice. Countries that had so far not adopted pertinent legislation on radioactive waste management, indicated that they intended to do so, and to take the Code of Practice into account in drafting new legislation.

12. As regards State practice regarding the transboundary movement of radioactive waste, the experience reported ranges from the return to the supplier of spent sealed sources - a practice reported by a number of developing countries - to a control or licensing system for the import and export of wastes, a "notification-authorization" system, and, in more recent legislation, notably in Africa, the strict prohibition of export, import or transit of radioactive waste.

Follow-up

13. Whilst it is certainly premature to judge, only one year after its adoption by the IAEA General Conference, the Code of Practice's effectiveness as a means to harmonize national approaches or to prevent illegal movements worldwide, few countries only have expressed specifically their preference for an international convention in this area.

14. It is therefore the Agency's intention to continue keeping the issue under active consideration, to consult with its Member States, and review, in conjunction with ongoing efforts to establish a nuclear safety convention, the need to develop a convention or protocol on transboundary radioactive waste movements.

Other issues

15. Regarding the broader context of nuclear safety, the IAEA General Conference at its 35th Session adopted a resolution regarding "Measures to Strengthen International Cooperation in Matters Relating to Nuclear Safety and Radiological Protection" (GC(XXXV)/RES/553) stressing, inter alia, "the need to consider a harmonized international approach to all aspects of nuclear safety, including safety objectives for nuclear waste".

Notes

1. The Executive Director of UNEP in a letter dated 21 January 1991 to Dr. H. Blix, Director General of the IAEA, confirmed that "the provisions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal have been taken into account. I refer, in particular, to the two most important principles in the Basel Convention, namely, the sovereign right of every State to prohibit the movement of waste into, from or through its territory, as well as the principle of prior written notification and consent of the sending, receiving or transit States. This constitutes, in my opinion, the implementation of resolution 5 adopted by the Basel Conference in March 1989 and titled "Harmonization of Procedures of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and the Code of Practice for International Transactions Involving Nuclear Wastes.' UNEP fully supports the decision of the General Conference to keep the question of the international movement of radioactive waste under active review including the desirability of including a legally binding instrument under the auspices of the IAEA.

2. For the Commission of the European Communities, the Director-General for the Environment, Nuclear Safety and Civil Protection noted that "the Code, aiming at preventing possible radiological dangers arising from unauthorized and improper management and disposal of radioactive waste, contributes to the transparency of nuclear operations. ... The Community [has] progressed in the same direction through the adoption, on 15 December 1989, of the Fourth ACP-CEE Convention known as the Lomé 4 Convention. The Convention prohibits the export of radioactive waste from the Community to the 68 ACP States and the import into the ACP States of such waste from any other country. The Convention specifically makes reference to the IAEA for the definition of radioactive waste ...".

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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS:

PROTECTION AND PROMOTION OF HUMAN HEALTH
(Section I, Chapter 5 of Agenda 21)

Report of the Secretary-General of the Conference

INTRODUCTION

1. This document has been prepared by the Secretary-General of the Conference in response to decision 3/8 taken on 3 September 1991 at the third Preparatory Committee. It is based on the review of Environmental Health Aspects of Development, Cross Sectoral Issues (A/Conf.151/PC/54), on the conclusions and recommendations of the WHO Commission on Health and Environment, which concluded its work in October 1991, and the guidance on the structure of Agenda 21 (A/Conf.151/PC/L.49) provided at the third session of the Preparatory Committee.

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2. Health and development are as intimately connected as health and environment. Continued population pressure, irrational resource use and increasing waste generation create unsustainable demands on the environment. Their adverse health effects are now evident in developing and industrialized countries alike. However, developing countries also face the burden of poverty and lack of environmental resources. Action programmes under Agenda 21 must, therefore, address the adverse effects of development on health, e.g. control of environmental health hazards, and meet basic health needs including the elimination of communicable diseases.

3. Attaining "Health for All" requires vision and knowledge about the environmental aspects of disease and the way in which environmental control can contribute to improved health and to further economic and social goals. It also requires intersectoral efforts to link health with economic improvements, education, housing, public works, energy, and development at all levels of government and administration aimed at eliciting the participation of the people in their communities. The integration of health into the design of national economic goals and strategies must include prevention programmes to avoid crises often accompanying development.

PROGRAMME AREAS

4. The following programme areas are developed in this chapter of Agenda 21:

A Reducing Health Risks from Environmental Pollution and Hazards

B Meeting the Urban Health Challenge

C Meeting Basic Health Needs

D Control of Communicable Diseases

E Protecting Vulnerable Groups

A. REDUCING HEALTH RISKS FROM ENVIRONMENTAL POLLUTION AND HAZARDS

Basis for Action

5. In many locations around the world the general environment/air, water and land/work places and even individual dwellings are so badly polluted that the health of hundreds of millions of people is adversely affected. This is due to past and present developments in energy production and use, in industry, in transportation, etc., with little or no regard for environmental protection. While there have been notable improvements in most of the developed countries, this has not happened, as a rule, in the developing countries where the deterioration in environmental conditions continues. Pollution control and health protection measures have not kept pace with economic progress as witnessed in Eastern and Central Europe. Most severe development-related environmental health hazards exist in the newly industrializing countries. A recent WHO study revealed that 50 out of 60 such countries are lacking effective pollution control mechanisms.[1]

Objectives

6. The overall objective is to clean up and maintain the environment to a degree that human health is not impaired and yet encourage development to proceed. Specific programme objectives are to:

a. incorporate appropriate environmental and health safeguards as part of national development programmes in all developing countries by the year 2000;

b. establish adequate national infrastructures and programmes for providing requisite pollution surveillance and the basis for abatement in all countries by the year 2000;

c. identify and compile the necessary information on health effects to support cost-benefit analyses, including environmental health impact assessment for pollution control, prevention and abatement measures.

Activities

7. National action programmes with international support and coordination in this area should include:

a. urban air pollution

i. develop appropriate pollution control technology on the basis of risk assessment and epidemiological research for the introduction of clean production processes and suitable safe mass transport;[2]

ii. develop air pollution control capacities in all major cities emphasizing monitoring networks and enforcement programmes.[3]

b. indoor air pollution

i. support research[4] and develop programmes for applying prevention and control methods to reducing indoor air pollution, including the provision of economic incentives for the installation of appropriate technology;

ii. implement health education campaigns in developing countries to reduce the health impact of domestic use of biomass and coal.

c. noise

i. develop criteria for maximum permitted safe noise levels and promote noise assessment and control as part of environmental health programmes.

d. ionizing and non-ionizing radiation[5]

i. develop and implement national legislation, standards and enforcement procedures on the basis of existing international guidelines.[6]

e. industry and energy production[7]

i. establish environmental health impact assessment procedures for the planning and development of new industries and energy facilities;

ii. incorporate health risk analysis in all national programmes for pollution control and management;

iii. establish industrial hygiene programmes in all major industries for the surveillance of workers' exposure to health hazards.

f. monitoring and assessment

i. establish adequate environmental monitoring capacities for the surveillance of environmental quality and health status of populations in conformity with Earthwatch procedures.[8]

g. research promotion and methodology development

i. support the development of new methods for the quantitative assessment of health benefits and cost associated with different pollution control strategies;

ii. carry out interdisciplinary research on the combined health effects of exposure to multiple environmental hazards, including epidemiological investigations of long-term exposures to low levels of pollutants and the use of biological markers capable of estimating human exposures, adverse effects, and susceptibility to environmental agents.[9]

Means of Implementation

Financing and Cost Evaluation:

8. The reduction of air pollution in urban areas of the developing countries requires annual investments in the order of US$ 2.5 billion with a private sector component of about US$ 2.0 billion. The public expenditure component of about US$ 500 million includes an international financial contribution of about US$ 50 million annually. The reduction of indoor air pollution from household biomass use is estimated at US$ 500 million annually with an international financing component of about US$ 50 million annually.

9. The establishment and strengthening of health-oriented monitoring systems for air, water and soil in developing countries and of national capabilities for dealing with air pollution, indoor air quality, noise, radiation, health impact assessment and research promotion requires about US$ 30 million annually, with US$ 15 million coming from international sources, including US$ 2 million for the strengthening of international institutions.

Scientific and Technological Means:

10. Although technology to prevent or abate pollution is readily available for a large number of problems, for programme and policy development countries should undertake research within an intersectoral framework. Such efforts should include collaboration from the business sector. Cost-effect analysis and environmental impact assessment methods should be developed through cooperative international programmes and applied to the setting of priorities and strategies in relation to health and development.

Human Resource Development:

11. Comprehensive national strategies should be designed to overcome the lack of qualified human resources which is a major impediment to progress in dealing with environmental hazards for health. Training should include environmental and health officials at all levels from managers to inspectors. More emphasis needs to be placed on including the subject of environmental health in the curricula of secondary schools and universities and on educating the public.

Capacity Building:

12. Each country should develop the knowledge and practical skills to foresee and identify environmental health hazards, and the capacity to reduce the risks. Basic capacity requirements must include: knowledge about environmental health problems and awareness on the part of leaders, citizens and specialists; operational mechanisms for intersectoral and intergovernmental cooperation in development planning and management and in combating pollution; arrangements for involving private and community interests in dealing with social issues; delegation of authority and distribution of resources to intermediate and local levels of government to provide frontline capabilities to meet environmental health needs.

B. MEETING THE URBAN HEALTH CHALLENGE

Basis for Action

13. For hundreds of millions of people, the poor living conditions in urban areas are destroying lives, health, and social values. Urban growth has outstripped society's capacity to meet human needs, leaving hundreds of millions of people with inadequate incomes, inadequate diets, and inadequate housing and services. Urban growth exposes populations to serious environmental hazards and has outstripped the capacity of municipal governments to provide the environmental health services that the people need. All too often urban development is associated with destructive effects on the physical environment and the resource base needed for sustainable development. Environmental pollution in urban areas is associated with excess morbidity and mortality. Overcrowding and inadequate housing contribute to respiratory diseases, tuberculosis, meningitis and other diseases.

Objectives

14. Improve the health and well-being of all urban dwellers, so that healthy people can contribute to economic and social development.[10] The global objective is to achieve a 10 to 40% improvement in health indicators by the year 2000. The same rate of improvement should be achieved for environmental, housing and health services indicators.[11]

Activities

15. Local authorities, with the support of national governments and international organizations should initiate the following activities:[12]

a. develop and implement municipal health plans

i. establish intersectoral committees at both the political and technical level, including active collaboration on linkages with scientific, cultural, medical, business, social and other city institutions, using networking arrangements;

ii. adopt municipal "enabling strategies" that emphasize "doing with" rather than "doing for";

iii. provide public health education in schools, work place, mass media, etc.

b. survey the existing health, social and environmental conditions in cities including documentation of intra-urban differences

c. strengthen environmental health services

i. adopt health impact and environmental impact assessment procedures;

ii. provide basic and in-service training for new and existing personnel.

d. establish and maintain city networks for collaboration and exchange of models of good practice.[13]

Means of Implementation

Financing and Cost Evaluation:

16. Most of the programme activities should be performed by the cities using local resources.[14] For the implementation of healthy cities and other similar programmes, the local cost of activities would be in the order of US$ 200 million annually. The international contributions in support of accelerated development is estimated to be about US$ 20 million per year until the year 2000. Strengthening of international institutions is required to provide collaborative networks, development of assessment methods for planning purposes, design of new technologies and managerial support. International financing of about US$ 2 million is required annually for this.

Scientific and Technological Means:

17. Decision-making models should be further developed and more widely used to assess the costs and the health and environment impacts of alternative technologies and strategies. Improvement in urban development and management requires better national and municipal statistics based on practical, standardized indicators. A priority is development of methods for measurement of intra-urban and intra-district variations in health status and environmental conditions, and for the application of this information in planning and management.

Human Resources Development:

18. Programmes must supply the orientation and basic training of municipal staff required for the healthy city processes. Basic and in-service training of environmental health personnel will also be needed.[15]

Capacity Building:

19. The programme is aimed toward improved planning and management capabilities in the municipal government and its partners in central government, the private sector and universities. Capacity development should be focussed on obtaining more complete information, improved coordination mechanisms linking all the key actors, and better use of available instruments for implementation.

C. MEETING BASIC HEALTH NEEDS

Basis for Action

20. Health ultimately depends on the ability to successfully manage the interaction between the physical, biological and economic/social environment. Sound development is not possible without a healthy population, yet most developmental activities affect to some degree the environment which in turn causes or exacerbates many health problems. Conversely, it is the very lack of development that is the cause of many health problems which can be alleviated only through development. The health sector cannot accomplish basic needs objectives on its own; it is dependent on social and economic development while directly contributing to it.[16] It is also dependent on a healthy environment, including the provision of water supply and sanitation and promotion of food supply and proper nutrition. However, they all presuppose the building of a health infrastructure for primary health care in conjunction with primary environmental care. Meeting basic health needs goes hand in hand with the alleviation of poverty and should be seen as a contribution to it.[17]

Objectives

21. Within the overall strategy to achieve health for all by the year 2000, to provide basic health needs to entire populations (urban, peri-urban, rural), along with specialized environmental health support as necessary, and

involve communities, the health sector and health-related sectors in responsible and coordinated ways. Measurable indicators could be the extent to which:[18]

a. health service coverage for population groups in the Low Human Development group are raised to that of the Medium Human Development group by the year 2000;

b. health service coverage for population groups in the Medium Human Development group are raised to that of the High Human Development group by the year 2000.[19]

Activities

22. National governments should strengthen their health sector programmes to:

a. build health infrastructures, monitoring and planning systems

i. deliver primary health care technologies that are practical, scientifically sound and appropriate to individual country needs;

ii. support the use and strengthening of mechanisms which improve the coordination between health and related sectors at the central and district levels;

iii. implement rational and affordable approaches to the establishment and maintenance of health facilities;

iv. increase provision of social services support;

v. develop strategies, including reliable health indicators, to monitor the progress and evaluate the effectiveness of health programs;

vi. establish the mechanism to determine the resources needed to finance the health system and identify the various financing alternatives;

vii. promote information exchange, technical support, and training.

b. support research and methodology development

i. establish mechanisms for sustained community involvement in environmental health activities including optimization of the use of community financial and human resources;

ii. conduct environmental health research including behaviour research and ways to increase coverage and ensure greater utilization of services by peripheral, underserved and vulnerable populations.

Means of Implementation

Financing and Cost Evaluation:

23. Raising of health services levels to achieve objective (a) above requires expenditures of more than US$ 20 billion annually and about the same amount to achieve objective (b), totalling an annual expenditure of more that US$ 40 billion annually for the health sector. A contribution of about US$ 5 billion should be provided from international financial sources. This would include US$ 10 million annually for the strengthening of regional and global institutions which support national capacity building in this area.

Scientific and Technological Means:

24. New approaches to planning and managing health care systems and facilities should be tested and research on ways of integrating appropriate technologies into health infrastructures supported. The development of scientifically sound health technology should enhance the adaptability to local needs and maintainability by community resources, including the maintenance and repair of equipment used in health care. Programmes to facilitate the transfer and sharing of information and expertise should be developed, including communication methods and educational materials.

Human Resource Development:

25. Intersectoral approaches to the reform of health personnel development should be strengthened to ensure its relevance to the Health for All strategies. Efforts to enhance managerial skills at the district level should be supported with the aim of ensuring the systematic development and efficient operation of the health system. Intensive, short, practical training programmes with emphasis on skills in effective communication, community organization and facilitation of behaviour change should be developed in order to prepare the local personnel of all sectors involved in social development for carrying out their respective roles. In cooperation with the education sector, special health education programmes should be developed focusing on the role of women in the health care system.

Capacity Building:

26. Governments should adopt enabling and facilitating strategies to promote community participation in meeting its own needs in addition to providing direct support to the provision of health care services. A major focus should be the preparation of community-based health and health-related workers to assume an active role in community health education with emphasis on team work, social mobilization and the support of other development workers. National programmes should cover district health systems in urban, peri-urban and rural areas; the delivery of health programmes at the district level, and the development and support of referral services.

D. CONTROL OF COMMUNICABLE DISEASES

Basis for Action

27. Advances in the development of vaccines and chemotherapeutic agents have brought many communicable diseases under control. However, many important communicable diseases remain for which environmental control measures are indispensable/diarrhoeal diseases, leishmaniasis, malaria, schistosomiasis and other vector-borne diseases, to mention only a few. In all such instances, the environmental measures, either as an integral part of primary health care or undertaken outside the health sector, form an indispensable component of overall disease control strategies and, in some cases, even the only component.[20]

28. With HIV infection levels estimated to increase to 30-40 million by the year 2000, the socio-economic impact of the pandemic is expected to be devastating for many developing countries. While direct health costs will be substantial, they will be dwarfed by the indirect costs of the pandemic, i.e. mainly costs associated with the loss of income and decreased productivity of the workforce. The pandemic will inhibit growth of the service and industrial sectors and significantly increase costs of human capacity building and retraining. The agricultural sector is particularly affected where production is labour-intensive.

Objectives

29. Establish by the year 2000, a global monitoring system for endemic diseases, in particular those with a potential for transboundary spread, based on data collection at the primary health care level. Specific objectives are:[21]

a. elimination of Guinea worm by the year 2000;

b. eradication of polio and measles by the year 2000;

c. effective control of onchocerciasis (river blindness) and leprosy by the year 2000.

30. Establish at the national level action plans for the environmental control of communicable diseases as intersectoral initiatives - advised, coordinated and monitored from within the public health sector. These plans must cover malaria, diarrhoeal diseases, hepatitis, sleeping sickness, soil-transmitted helminths, schistosomiasis and acute respiratory diseases.

31. Specific objectives include:

a. by 2000 reduce the number of deaths from childhood diarrhoea in developing countries by 70%;

b. by 2000 reduce the incidence of childhood diarrhoea in developing countries by at least 50%;

c. by 2000 initiate comprehensive programmes to reduce mortality from acute respiratory infections in children by 90%, particularly in countries with high infant mortality;

d. by 2000 provide 95% of the world's child population with access to appropriate care for acute respiratory infections within the community and at first referral level;

e. by 2000, institute anti-malaria programmes in all countries where malaria presents a significant health problem and maintain the transmission-free status of areas freed from endemic malaria;

f. by 2000 implement control programmes in countries where major human parasitic infections are endemic and achieve an overall reduction in the prevalence of schistosomiasis and of other trematode infections of 40% and 25% respectively from a 1984 baseline, and a marked reduction in incidence, prevalence and intensity of filarial infections;

g. mobilize and unify national and international efforts against AIDS to prevent infection and to reduce the personal and social impact of HIV infection.

Activities

32. Each national government should develop a national health action plan to include, at a minimum, the following components:

a. national health systems

i. implement programmes to identify environmental hazards in the causation of communicable diseases;

ii. establish monitoring systems of epidemiological data to ensure adequate forecasting of the introduction, spread or aggravation of communicable diseases;

iii. implement intervention programmes, including measures consistent with the principles of the Global AIDS Strategy.

b. public information and health education

i. disseminate information on the risks of endemic communicable diseases and build awareness on environmental methods for control of communicable diseases.

c. intersectoral cooperation and coordination

i. second experienced health professionals, to relevant sectors, such as planning, housing, agriculture;

ii. develop guidelines for effective coordination in the areas of professional training, assessment of risks and development of control technology.

d. environmental management

i. apply methods for the prevention and control of communicable diseases associated with economic development.

e. primary health care system

i. strengthen early diagnosis programmes and improve capacities for adequate treatment;

ii. reduce the vulnerability to HIV infection of women and of their offspring.

f. support research and methodology development

i. intensify and expand multi-discipline research including focused efforts on the mitigation and environmental control of tropical diseases;[22]

ii. carry out intervention studies to provide a solid epidemiological basis for control policies and to evaluate the efficiency of alternative approaches;

iii. undertake studies in the population and among health workers to determine the influence of cultural, behavioural and social factors on control policies.

Means of Implementation

Financing and Cost Evaluation:

33. The health sector expenditure of developing countries for the control and prevention of communicable diseases, particularly the tropical and vector-borne diseases, is estimated at US$ 2 billion annually.[23] The international financial support should contribute about one third of the health sector costs or US$ 600 million annually. This includes US$ 4 million annually for the support of international institutions. In addition, vector control services and insecticides require annual expenditures in the order of US$ 1 billion annually.[24]

34. The public health expenditures for the prevention of AIDS and the treatment of AIDS cases is estimated to cost the developing countries around US$ 1 billion annually. The international financial support should cover about US$ 300 million thereof, including global and regional institutions and programmes.

Scientific and Technological Means:

35. Efforts to prevent and control diseases should include investigations of the epidemiological, social and economic bases for the development of more effective national strategies for the integrated control of communicable diseases. Cost-effective methods of environmental control should be adapted to local developmental conditions.

Human Resources Development:

36. National and regional training institutions should promote broad intersectoral approaches to prevention and control of communicable diseases, including training in epidemiology and community prevention and control, immunology, molecular biology and the application of new vaccines. Health education materials should be developed for use by community workers and for the education of mothers for the prevention and treatment of diarrhoeal diseases in the home.[25]

Capacity Building:

37. The health sector should develop adequate data on the distribution of communicable diseases as well as the institutional capacity to respond and collaborate with other sectors for prevention, mitigation and correction of communicable disease hazards through environmental protection. The advocacy at policy- and decision-making levels should be gained, professional and societal support mobilized, and communities organized in developing their self-reliance.

E. PROTECTING VULNERABLE GROUPS

Basis for Action

38. In addition to meeting basic health needs, specific emphasis has to be given to protecting vulnerable groups, particularly infants, youth and women, as a prerequisite for sustainable development.[26]

39. Infants and children: Approximately one third of the world's population are children under 15 years old. At least 15 million of these children die annually from such preventable causes as birth trauma, birth asphyxia, malnutrition, communicable diseases and diarrhoea. The health of children is affected more severely than other population groups by malnutrition and adverse environmental factors, and many children risk exploitation as cheap labour or in prostitution.

40. Youth:[27] Currently more than half of all people alive today are under the age of 25 and 4 of every 5 live in developing countries. They are particularly vulnerable to the problems associated with economic development which often weakens traditional forms of social support essential for the healthy development of young people. Urbanization and changes in social mores have increased substance abuse, unwanted pregnancy and sexually transmitted disease, including AIDS.

41. Women:[28] In developing countries, the health status of women remains relatively low and during the 1980s poverty, malnutrition and general ill-health in women were even rising. Most women in developing countries still do not have adequate access to the means of promoting their health, controlling their reproductive life and improving their socio-economic status.[29]

Objectives

42. The general objectives of protecting vulnerable groups are to ensure that every child has an opportunity to survive to adulthood without impairment; to ensure that young people can develop, establish and maintain healthy lives; and to allow women to perform their key role in society, through educational, economic and technical opportunities.

43. Specific major goals for child survival, development and protection were agreed upon at the World Summit for Children and remain valid also for Agenda 21. Supporting and sectoral goals cover women's health and education, nutrition, child health, water and sanitation, basic education and children in difficult circumstances.[30]

Activities

44. National governments, in cooperation with local and non-governmental organizations should initiate programmes in the following areas:

a. Infants and children

i. strengthen basic health care services for children, in the context of primary health care delivery including immunization and nutrition programmes;

ii. undertake widespread adult education on the use of oral rehydration therapy for diarrhoea, treatment of respiratory infections and prevention of communicable diseases;

iii. promote policy and legislation protecting children from sexual and workplace exploitation, and children and foetuses from the effects of environmental toxins.

b. Youth

i. strengthen services for youth in health, education and social sectors in order to provide better information, education, counselling and treatment for specific health problems, including drug abuse.

c. Women

i. incorporate health issues in national action programmes on women and development and utilize women's groups at national and community level to identify health risks;

ii. provide concrete incentives to encourage and maintain attendance of women at school and adult education courses, including health education and training in primary, home and maternal health care.

iii. carry out baseline surveys and knowledge, attitude and practice studies on health and nutrition of women, especially as related to the impact of environmental degradation and adequate resources.

Means of Implementation

Financing and Cost Evaluation:

45. The incremental cost, above the basic health needs, for activities to address the special needs of vulnerable groups is an estimated US$ 3.7 billion per year to cover child health programmes, youth programmes and women's health programmes.[31] About US$ 400 million would be needed from international sources, including US$ 5 million annually to strengthen international institutions.

Scientific and Technological Means:

46. Educational, health and research institutions should be strengthened to provide support to improve the health of vulnerable groups. Social research on the unique problems of these groups should be expanded and methods for implementing flexible pragmatic solutions explored with emphasis on preventive measures. Technical support should be provided to governments, institutions and youths' and women's non-governmental organizations in the health sector.

Human Resources Development:

47. The development of human resources for the health of children, youth and women should include reinforcement of educational institutions, promotion of interactive methods of education for health and increased use of mass media in disseminating information to the target groups. This requires the training of more community health workers, nurses, midwives, physicians, social scientists and educators, the education of mothers, families and communities and the strengthening of ministries of education, health, population, etc.[32]

Capacity Building:

48. The governments should (i) organize national, intercountry and inter-regional symposia and other meetings for the exchange of information among agencies and groups concerned with the health of children, youth and women, (ii) enlist women's organizations and youth groups to promote health and to lobby for creation of new laws and enforcement of existing ones to ensure a healthy environment for women, youth and children.[33]

EXPLANATORY NOTES

1. Schaefer, M. (1991) Combating environmental pollution: National capabilities for health protection. World Health Organization, Geneva.

2. See also chapter II.1 on Protecting the atmosphere.

3. See also chapter I.6 on Promoting a sustainable pattern of human settlements.

4. Research into the health effects of indoor air pollution due to building materials, ventilation systems and chemical usage.

5. Ionizing radiation includes natural and man-made sources of radioactivity; non-ionizing radiation includes ultraviolet radiation, lasers, microwaves, etc.

6. See also chapter II.14 on Safe and environmentally sound management of radioactive wastes.

7. See also chapter III.7 on Business and industry.

8. See also chapter IV.9 on Providing data and information for sustainable development.

9. See also chapter III.8 on Scientific and technological community.

10. See also chapter I.6 on Promoting a sustainable pattern of human settlements.

11. Reduction of intra-urban variations (i.e. greater health equity) should be a priority in all cities. Quantitative objectives should be expressed by an improvement in the following health and environmental indicators: infant mortality rate (IMR); maternal mortality; percentage of children whose weight-for age and/or weight-for-height are acceptable; percentage of newborns weighing at least 2500 grams at birth; life expectancy at birth, by sex, in all identifiable subgroups; specific disease rates (particularly respiratory diseases and tuberculosis, as indicators of crowded housing, diarrhoeal diseases, as indicators of inadequate water and sanitation), including incidence rate and mortality rate; industrial accidents; social problems (drug and alcohol abuse, crime); and transport accidents (deaths and injuries).

12. The most prominent international cooperation activity in support of this programme area is the WHO "Healthy Cities" programme which includes all of the activities listed.

13. See also chapter III.5 on Cities and local authorities.

14. This excludes investments made for water supply, sewage, solid wastes, transport and other public services; see also chapter I.7 on Promoting a sustainable pattern of human settlements, chapter II.1 on Protecting the atmosphere, chapter II.10 on Protection of the quality and supply of freshwater resources, and chapter II.13 on Environmentally sound management of solid wastes.

15. See also chapter IV.4 on Promoting of education, training and public awareness.

16. The Alma-Ata declaration includes the following eight basic needs: education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; adequate supply of safe water and basic sanitation; maternal and child health care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; provision of essential drugs.

17. See also chapter I.2 on Combatting poverty and meeting basic needs.

18. See also UNDP: "Human Development Report 1991".

19. Indicators of Health Services include infant mortality rate, percentage of population with access to health services, population per doctors ratio, etc.; the Human Development Index is composed of three indicators: life expectancy, education and income.

20. Environmental control of communicable diseases includes water supply and sanitation, water pollution control, food quality control, integrated vector control, garbage collection and disposal, and environmentally sound irrigation practices; see also chapter II.10 on Protection of the quality and supply of freshwater resources, chapter II.13 on Environmentally sound management of solid wastes, and II.6 on Promoting sustainable agriculture and rural development.

21. Some of the objectives were also stated at the World Summit for Children, United Nations, New York, 30 September 1990.

22. See also chapter IV.3 on Science for sustainable development.

23. This cost estimate covers the targeted diagnosis and treatment of the major communicable and tropical diseases, including schistosomiasis, malaria, filariasis, gastro-enteritis, diarrhoeas, leishmaniasis, tuberculosis, hepatitis and acute respiratory diseases. The programmes on specific communicable diseases are based upon the existing health care delivery systems which are costed under programme area (C) on Meeting Basic Health Needs.

24. This cost estimate for vector control programmes, including insecticide application and rodent control, is based upon WHO studies of 103 developing countries and 26 urban areas.

25. See also chapter III.1 on Women.

26. See also chapter I.2 on Combating poverty and meeting basic needs.

27. See also chapter III.2 on Youth.

28. See also chapter III.1 on Women.

29. See also chapter I.4 on Reducing demographic pressure.

30. For further details see "World declaration on the survival, protection and development of children and plan of action for implementing the world declaration on the survival, protection and development of children in the 1990s". World Summit for Children; United Nations, New York, 30 September 1990.

31. This amount is estimated under the assumption that the necessary primary health care delivery programmes are already costed under programme area (C) on Meeting Basic Health Needs.

32. See also chapter IV.4 on Promoting of education, training and public awareness.

33. See also chapter IV.5 on Capacity building in developing countries.